



THE REGULATORY ENVIRONMENT



Wood powder coating offers an environmentally friendly finish



> *By Craig A. Martin*

Going green is no longer a trend; it's the way of doing business in this century.

If you were to Google "green home," you'll get 523 million hits; "green products," 140 million; and "green building," 75.6 million. Our world is turning green, and it behooves businesses involved in wood-coating to embrace today's environmental consciousness by producing a product that lives up to the green demand.

Thanks to the Internet, the documentary "An Inconvenient Truth" and a growing number of state restrictions, consumers and end users are savvier about the effects of VOCs and HAPs on indoor air quality and the impact of

products and manufacturing processes on the environment — all important components of the green movement.

Anyone already producing eco-friendly cabinetry, flooring and furniture is well ahead of the green curve, which continues to spiral upward, resulting in entire green homes and buildings. The National Association of Home Builders' Washington headquarters recently received its third Energy Star rating, given to buildings that conserve natural resources while providing a comfortable and healthy environment for employees and visitors. Groups like the builders association, the National Kitchen & Bath Association (NKBA), the American Home Furnishings Alliance (AHFA) and the High Point Market Authority are promoting environmentally friendly products and procedures to their membership, and the subject is only expected to grow as states adopt stricter VOC

regulations, considered one of the biggest issues facing the wood coatings market.

Despite its dominance in popular culture, green takes on many definitions. Generally, a product or process is considered environmentally friendly if it's comprised of or uses recycled, renewable or reclaimed content; conserves water, energy and other natural resources; is durable; and doesn't impact indoor air quality.

Wood powder coating fits the above criteria. Unlike spray applications, wood powder coating on MDF involves an environmentally friendly process and produces an environmentally friendly product. Its versatility is ideal as ready-to-assemble furniture, shelving and storage, workstations and desks, cabinetry, doors and countertops.

"Our powders do not contain any VOCs and most of the powder is reclaimed and reused during the process," says Ute Wallner, marketing



The new wave of wood powder coatings materials and equipment technology has made the coating a viable alternative to traditional finishing methods.

EMISSION BUSTERS

Indoor air quality is probably one of the top concerns of end users, who are taking notice of the content of products that go into their homes and offices. Thanks to recent media attention, consumers know that carpeting, paint and even furniture can emit poten-

tially harmful substances into the air. And, many realize that most composite panels contain formaldehyde, a substance California air regulators have labeled a "major source" of indoor air pollution.

In April, the California Air Resources Board passed sweeping new restrictions on

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manager for the NAFTA region of Tiger Drylac, a powder manufacturer.

Wallner reports that green design garnered a lot of attention during a recent architectural trade show.

"Everybody wants it, and powder coating on MDF is perfect because of the freedom of design it gives designers," she says.

Michele Redding, vice president of market development at BTD Wood Powder Coating, notes that the company's process emits no VOCs, either during manufacturing or in the finished product. Wood powder coating doesn't involve heavy metals or solvents.

"There is also no off-gassing, which is important if a product is being placed in an area where environmental control standards exist," she says.

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formaldehyde emissions that will dramatically impact the residential furniture, flooring, cabinetry, countertop and shelving markets. CARB contends that formaldehyde, which occurs naturally in wood and is added to

composite wood to bind wood particles together, contributes to eye, nose and throat irritation, headaches and decreased lung function, among other ailments.

"For regular MDF, formaldehyde is not an issue because the

coating completely encapsulates the board," says Redding. "But because of newer, stricter regulations, we're getting a lot of inquiries about no-added formaldehyde board, even though the formaldehyde content in normal

MDF is extremely minute."

Chris Leffel, vice president of sales and marketing for SierraPine, one of North America's largest MDF, particleboard and moulding producers, says interest in the company's no formaldehyde-added products is growing.

"Our no-added formaldehyde resin is a growing niche of green building," he says. "Not only has it proven to significantly improve the plant environment of powder coaters, it also enhances the environmental message our customers can develop and promote."

The California company's entire product line fits into green standards for using recycled and reclaimed content, and thereby promoting sustainable design. All of its composite panels are made from 100 percent recycled wood fiber, reusing waste wood that would have previously been burned.

"Our wood comes from saw mills, ground-up pallets, demolition and construction waste, even orchard pruning and commercial forestry operations," Leffel says.

The Powder Coating Institute calls wood powder coating an environmentally friendly, economical and clean process. Not only is exhaust air from the coating booth returned to the plant, exhaust requirements for a powder coating oven are lower than solvent-based coatings, which means less energy is used and less oven air is exhausted outside. Because the powder-coating process is so exact, there are fewer rejects because powder coating doesn't run, drip or sag.

"It's a much more user-friendly process," says Redding. "Dry powder doesn't have fumes. And unlike paint, it doesn't make a mess in the plant or on employee clothing."

Waste is also negligible, she notes. "We recapture about 98 percent of the powder, which we can use again."

Wood powder coating is a great fit for the environmental movement, according to Leffel. "It's easier and cleaner than liquid paint," he says. "The avail-

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ability of 100-percent recycled MDF really appeals to the green community, which, because of the popularity of sustainable and environmentally friendly design, is being to expect it."

The durability of wood powder coating also increases its green value. When cabinetry, furniture and doors and store fixtures last longer, fewer trees and other

growth and migration of bacteria and also combats fungi, yeast, algae and mold. It's been proven to remove 99.9 percent of bacteria from a surface.

"It's great for hospitals, medical centers, restaurants, cafeterias and schools, and wherever

bacteria tend to build up," says Redding. "It lasts for several years, and is perfect in preventing the spread of bacteria."

With its many environmental benefits, expect to see wood powder coating on the rise. **Wd**

Editor's note: Craig A. Martin is the president of BTD Wood Powder Coating.



Due to the introduction of DuPont antimicrobial additives, the use of powder coatings in health care applications is fast growing.

resources need to be harvested to replace older product.

Redding attributes the longevity of wood powder coating to its completely encapsulated finish and its ability to withstand humidity, water and moisture, and abrasions. MDF powder-coated finishes won't rust, peel or delaminate from the substrate.

"All wood powder coating isn't the same. You have to have the skill and the expertise to get quality," she says.

ADDED BENEFITS

In addition to impacting indoor air quality by not off-gassing or emitting VOCs, powder coatings can also provide added health benefits thanks to a patented antimicrobial additive from DuPont. The AgION Antimicrobial, released in the presence of moisture, uses an inorganic silver compound that prevents



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